

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-9 (canceled);

Claim 10 (currently amended): A virus formulation comprising:

- a) a purified virus;
- b) a buffer;
- c) a sugar;
- d) a salt;
- e) a divalent cation;
- f) a non-ionic detergent; and,
- g) ~~at least one inhibitor of free radical oxidation~~ an EDTA/ethanol combination.

Claim 11 (currently amended): A virus formulation of claim 10 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.

Claim 12 (currently amended): A virus formulation of claim 10 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 13 (original): A virus formulation of claim 12 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 14 (original): A virus formulation of claim 13 wherein the divalent cation is selected from the group consisting of MgCl₂ and CaCl₂ in an amount from about 0.1 mM to about 5 mM.

Claim 15 (original): A virus formulation of claim 14 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 16 (currently amended): A virus formulation of claim 15 10 wherein the inhibitor of free radical oxidation is selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, further comprising histidine, and combinations thereof.

Claim 17 (currently amended): A virus formulation of claim 10 with a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L wherein,

said buffer is about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

said sugar is sucrose present in a weight to volume range of about 2% to about 8%;

said salt is NaCl present in a range from about 25 mM to about 250 mM;

said divalent cation is MgCl₂ in a range from about 0.1 mM to about 5 mM;

said surfactant is Polysorbate-80 at a concentration from about 0.001% to about 0.25%;

and

said at least one inhibitor of free radical oxidation EDTA/ethanol combination is a combination of EDTA from about 1 μ M to about 500 μ M; and ethanol from about 0.1% to about 5.0%; and

further comprising histidine from 5 mM to 10 mM.

Claim 18 (currently amended): A virus formulation of claim 17, wherein EDTA is at about 100 μ M and ethanol is at about 0.5%.

Claim 19 (currently amended): A virus formulation of claim 11 comprising adenovirus and a formulation selected from the group consisting of formulation number A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A151b, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.

Claims 20-23 (canceled):

Claim 24 (currently amended): An adenovirus formulation comprising a purified adenovirus and at least one inhibitor of free radical oxidation selected from the group consisting

~~of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof and an EDTA/ethanol combination.~~

Claim 25 (currently amended): An adenovirus formulation of claim 24 further comprising a buffer, a sugar, a salt, a divalent cation, and a non-ionic detergent.

Claim 26 (previously presented): An adenovirus formulation of claim 25 with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/ml and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.

Claim 27 (previously presented): An adenovirus formulation of claim 26, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 28 (currently amended): An adenovirus formulation of claim 27 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 29 (previously presented): An adenovirus formulation of claim 28 wherein the divalent cation is selected from the group consisting of MgCl₂ and CaCl₂ in an amount from about 0.1 mM to about 5 mM.

Claim 30 (previously presented): An adenovirus formulation of claim 29 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 31 (previously presented): An adenovirus formulation of claim 24, comprising:
about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

sucrose in a weight to volume range of about 2% to about 8%;

NaCl in a range from about 25 mM to about 250 mM;

MgCl₂ in a range from about 0.1 mM to about 5 mM;

Polysorbate-80 at a concentration from about 0.001% to about 0.25%;

EDTA from about 1 μM to about 500 μM; and

ethanol from about 0.1% to about 5.0%.

Claim 32 (previously presented): An adenovirus formulation of claim 31, wherein EDTA is present from about 50 μ M to about 250 μ M, ethanol is present from about 0.25% to about 2.0% and further comprising histidine from 5 mM to 10 mM.

Claims 33-46 (canceled):

Claim 47 (currently amended): An adenovirus formulation of claim 46 25 wherein at least one inhibitor of free radical oxidation of g) is selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof further comprising histidine.

Claim 48 (canceled):

Claim 49 (currently amended): An adenovirus formulation of claim 47 25 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 50 (previously presented): An adenovirus formulation of claim 49 wherein the divalent cation is selected from the group consisting of MgCl₂ and CaCl₂ in an amount from about 0.1 mM to about 5 mM.

Claim 51 (previously presented): An adenovirus formulation of claim 50 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 52 (canceled):

Claim 53 (currently amended): An adenovirus formulation of claim 46 25 comprising adenovirus and a formulation selected from the group consisting of formulation number A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A151b, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.

Claim 54 (canceled):

Claim 55 (currently amended): An adenovirus formulation of claim 48 47 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 56 (previously presented): An adenovirus formulation of claim 55 wherein the divalent cation is selected from the group consisting of MgCl₂ and CaCl₂ in an amount from about 0.1 mM to about 5 mM.

Claim 57 (previously presented): An adenovirus formulation of claim 56 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 58 (currently amended): An adenovirus formulation of claim 57 with a virus an adenovirus concentration in the range from about 1x 10⁷ vp/mL to about 1x10¹³ vp/mL, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 59 (currently amended): An adenovirus formulation of claim 46 25, wherein said purified adenovirus is present in a concentration in the range from about 1x 10⁷ vp/mL to about 1x10¹³ vp/mL; the total osmolarity in a range from about 200 mOs/L to about 800 mOs/L; said buffer is about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

said sugar is sucrose present in a weight to volume range of about 2% to about 8%; said salt is NaCl is present in a range from about 25 mM to about 250 mM; said divalent cation is MgCl₂ in a range from about 0.1 mM to about 5 mM; said surfactant is Polysorbate-80 at a concentration from about 0.001% to about 0.25%; and

said at least one inhibitor of free radical oxidation EDTA/ethanol combination is a combination of EDTA from about 1 μM to about 500 μM, ethanol from about 0.1% to about 5.0%; and,

optionally, said formulation further comprises histidine.

Claim 60 (previously presented): An adenovirus formulation of claim 59, wherein EDTA is at about 100 μ M, ethanol is at about 0.5% and histidine is present from 5 mM to 10 mM.

Claim 61 (canceled):

Claim 62 (previously presented): An adenovirus formulation with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises from about 5.0 mM to about 10 mM Tris at a pH from about 7.0 to about 9.0, sucrose at about 5% weight/volume, NaCl at about 75 mM, MgCl₂ from about 1 mM to 2 mM, Polysorbate-80 from about 0.005% to about 0.1% weight/volume, EDTA at about 100 μ M, ethanol at about 0.5% weight/volume, and histidine from about 5 mM to about 10 mM.

Claim 63 (previously presented): An adenovirus formulation of claim 62 wherein the Tris buffer is present at about 10 mM, sucrose at about 5% weight/volume, NaCl at about 75 mM, MgCl₂ at about 1 mM, Polysorbate-80 from about 0.02% weight/volume, EDTA at about 100 μ M, ethanol at about 0.5% weight/volume, and histidine at about 10 mM.

Claim 64 (currently amended): An adenovirus formulation comprising a recombinant adenovirus and an EDTA/ethanol combination at least two inhibitors of free radical oxidation, wherein said inhibitors are selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof.

Claim 65 (currently amended): An adenovirus formulation of claim 64 further comprising a buffer, a sugar, a salt, a divalent cation, and a non-ionic detergent.

Claim 66 (previously presented): An adenovirus formulation of claim 65 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 67 (previously presented): An adenovirus formulation of claim 66 wherein the divalent cation is selected from the group consisting of MgCl₂ and CaCl₂ in an amount from

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about 0.1 mM to about 5 mM and the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.